

The background of the entire page is a dark, abstract graphic. It features a central, glowing blue and white circular element that resembles a stylized eye or a lens, with light rays emanating from it. This central element is surrounded by various geometric shapes, including a large, translucent blue sphere on the right and a jagged, magenta-colored shape at the top. The overall aesthetic is high-tech and futuristic.

Audiobahn®

QUALITY, RELIABILITY, & PURE BLISS

**GRAPHIC EQUALIZER WITH 3-WAY ELECTRONIC
CROSSOVER NETWORK AND LINE DRIVER
AEX250X AEX350X
OPERATING INSTRUCTIONS**

PLEASE READ THIS MANUAL BEFORE OPERATING UNIT. RETAIN FOR FUTURE REFERENCE.

The Audiobahn Way

To bring the product to market that excites the consumer through sound and vision from an orientation of integrity and customer service. We make you look as good as you sound. We strive to take car audio to an extreme the world has never seen, and a world that never stops evolving.

Audiobahn was established in 1997 with one long-term goal in mind, **"Build it Bigger, Badder, & Better, and the people will take notice!"** We back this statement with an engineering team that has brought home several Innovations, Design & Engineering Showcase Awards, and a marketing team from around the world that spends countless hours developing our no compromise products to satisfy the most discriminating enthusiasts.

Our global manufacturing facilities feature ISO9002 ratings (the highest level of quality control awarded in the electronics manufacturing industry), fully robotic assembly lines and a state of the art, California based R & D laboratory.

Due to overwhelming response from our competitors, and our goal to participate in even more events this year, we created **"TEAM AUDIOBAHN."** This organization is designed to create a support network along with shirts and perks for team members. "TEAM AUDIOBAHN" is not only for the diehard competitor, but also for anyone that loves car audio as much as we do. With four levels of play, one is right for you to get started in the Audiobahn family.

Our Technical Department and entire staff look to strive above and beyond the rest of the pack by going that extra mile to help you out. Whether you happen to be a veteran competitor, or a beginner car audio enthusiast that does not know a voice coil from a spider. We are all here to help you get the best system you can with what you have.

Judge for yourself, and remember what it's all about, **"If it's not Bigger, Badder & Better, it's not Audiobahn."** If audio is your life, Audiobahn is the brand for you! We make you look as good as you sound. People never stop trying to get the best product, so we will never stop making it.

*To learn more about "TEAM AUDIOBAHN" please give us a call, see our website at www.audiobahninc.com, or email us at team@audiobahninc.com to learn about all the details.

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Dear Customer,

Congratulations on your purchase of the worlds finest brand of car audio products. Here at Audiobahn Inc. we are devoted to making our musical reproduction the very best, and we are pleased you have chosen our product. Through years of engineering expertise, hand craftsmanship, and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your Audiobahn product installed by an Authorized Audiobahn Dealer, as we provide specialized training through our Audiobahn Installer Training Programs. Please read your warranty, keep your receipt, and original carton for possible future use.

Great products and proper installation are only a small piece of the puzzle when it comes to your system. Make sure that your installer is using only 100% authentic installation accessories from the Audiobahn Connections. The Audiobahn Connections line has everything ranging from the smallest terminal, to power wires up to 0 gauge, and 4 channel RCA cables.

To get a free brochure on Audiobahn products and Audiobahn Connections in the U.S. call (714) 988-0400 or e-mail us at sales@audiobahninc.com.

WARNING

Continuous exposure to sound pressure levels over 100 dB may cause permanent hearing loss. High powered autosound systems may produce sound pressure levels well over 135dB. Need we say more! Use common sense.

If after reading this manual, you still have questions regarding your product, we recommend that you see your nearest Audiobahn Dealer. A list of Authorized Audiobahn Dealers can be found on our web page. If you need further assistance, feel free to call us at (800)488-8595 and ask for the Technical Department. Be sure to have the model number, date of purchase, and invoice number available when you call.

The model number can be located on the outside of the carton. Record this in the space provided below along with the date of purchase. It is a good idea to keep your receipt with this, as you will need it in the case of a warranty repair or exchange.

Model Number: _____ Date of Purchase: _____

Heavy-duty heat sink mold
Clear acrylic protective cover
Blue digital LED volt meter
Input jacks: front / rear
Output jacks: subwoofer / mid / high
Line out jacks
Network with graphic equalizer (12dB boost / cut)
Remote control for "Q" (2-20) level control
DC to DC switching power supply
Frequency Multiplier
Bandpass / high-pass selector switch
Stereo / mono switch
EQ ON / OFF switch
Selectable crossover frequencies
Subwoofer:-----(40Hz - 400Hz)
Mid-range: high-pass----- (40Hz - 800Hz)
 mid-range----- (2kHz - 7kHz)
High:----- (40Hz - 8kHz)

Built-in power protection fuse (3A)
Power supply: 10-16V DC negative ground
Input impedance: 10K ohm
S/N More: >100dB
Max input signal level: 8V RMS
Max output signal level: 8V RMS
Channel separation: 65dB
THD: Less than 0.02%

EQUALIZER FREQUENCIES

AEX250X: 25 / 32 / 50 / 63 / 80 / 100 / 180 / 250 / 350 / 500 / 750Hz

1 / 1.8 / 2.5 / 3.5 / 5 / 7.5 / 10 / 15 / 18kHz

AEX350X: 25 / 32 / 45 / 63 / 80 / 100 / 180 / 200 / 250 / 325 / 400 / 500 / 650 / 800Hz

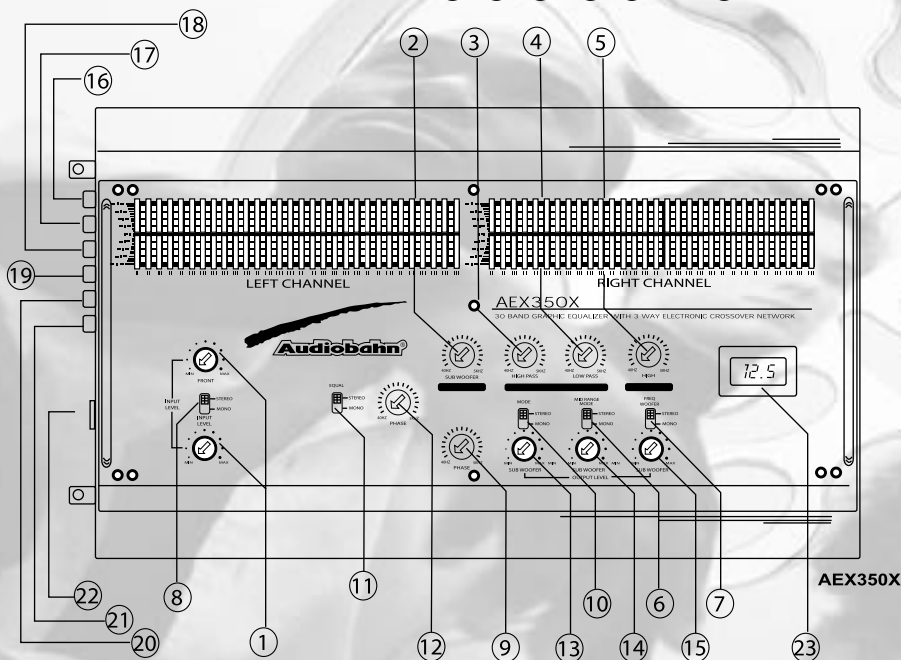
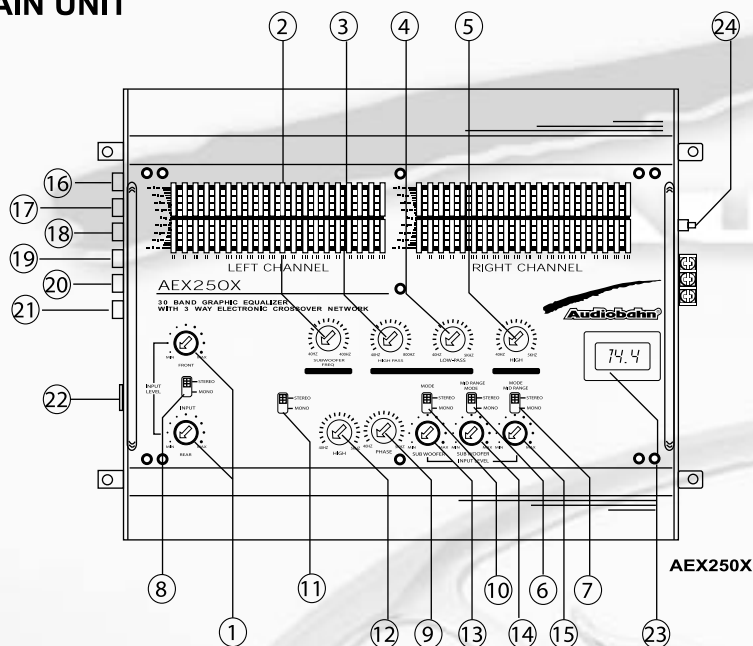
1 / 1.3 / 1.6 / 2 / 2.5 / 3.2 / 4 / 5 / 6.4 / 8 / 10 / 12 / 14 / 16 / 18kHz

Dimensions:

AEX250X-----12" (W) x 1 7/8" (H) x 9 7/8" (D)

AEX350X-----16 1/2" (W) x 1 7/8" (H) x 9 7/8" (D)

MAIN UNIT



1. INPUT (FRONT / REAR) LEVEL CONTROL

This gain control is used to adjust the input sensitivity of the unit to match the radio's output.

2. SUBWOOFER CROSSOVER SELECTOR

By turning the selector, you can choose from an infinite number of crossover points.

3. MID-RANGE / HIGH-PASS FREQUENCY SELECTOR

By turning the continually adjustable dial, you may select a high-pass crossover point for mid output between 40Hz - 800Hz.

4. MID-RANGE / LOW-PASS FREQUENCY SELECTOR

By turning the continually adjustable dial, you may select a low-pass crossover point for the mid output between 2kHz - 7kHz.

5. HIGH-PASS CROSSOVER SELECTOR

By turning the selector you can choose from an infinite number of crossover points from 40Hz - 8kHz.

6. HIGH-PASS / BANDPASS SELECTOR

When this switch is in high-pass mode, the low-pass filter cannot be used.

7. FREQUENCY MULTIPLIER

This switch changes crossover points from 40Hz - 800Hz to 400Hz - 8kHz for high frequency channel drivers.

8. PARALLEL INPUT SWITCH

This switch allows you to separate the input signal by switching to the OFF position.

9. PHASE SHIFT CONTROL

Allows you to change the phase of your subwoofer from 0° to 180° to help compensate for timing differences between drivers.

10. STEREO / MONO SWITCH

By setting this switch to the MONO position, the subwoofer output changes from stereo to mono, thus facilitating single subwoofer applications.

11. EQ ON / OFF SWITCH

This switch allows you to bypass the equalizer by switching to the OFF position.

12. FADER CONTROL

By turning this control clockwise, you increase the rear (subwoofer / mid-range) channel level. By turning this control counterclockwise, you increase the front (high-pass) channel level.

13. SUBWOOFER GAIN CONTROL

By turning this control clockwise, you increase the subwoofer channel level.

14. MID-RANGE GAIN CONTROL

By turning this control clockwise you increase the mid channel level.

15. HIGH-PASS GAIN CONTROL

By turning this control clockwise, you increase the high channel level.

16. FRONT CHANNEL INPUT JACKS

Input front signal from source unit here via RCA cable.

17. REAR CHANNEL INPUT JACKS

Connect the rear input signal from sound source here via RCA cable.

18. LINE OUT JACKS

To additional amplifiers, x-over or video system.

19. SUBWOOFER OUTPUT JACKS

Connect the RCA cable to the subwoofer channel amplifier input.

20. MID-RANGE OUTPUT JACKS

Connect the RCA cable to the rear channel amplifier input.

21. HIGH-PASS OUTPUT PORTS

Connect the RCA front to the front channel amplifier input.

22. REMOTE CONTROL JACK

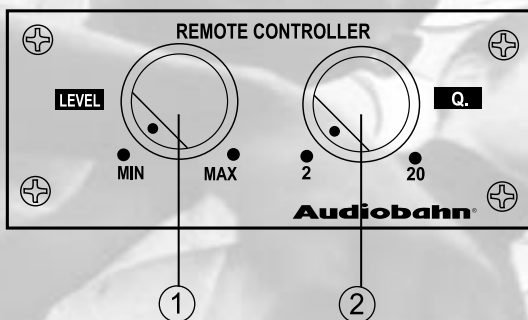
Plug the modular style cord connected to the remote control unit into this jack.

23. BLUE DIGITAL LED VOLT METER

24. FUSE

The 3 ampere fuse will help protect the units from damage in case of a short.

REMOTE CONTROL UNIT

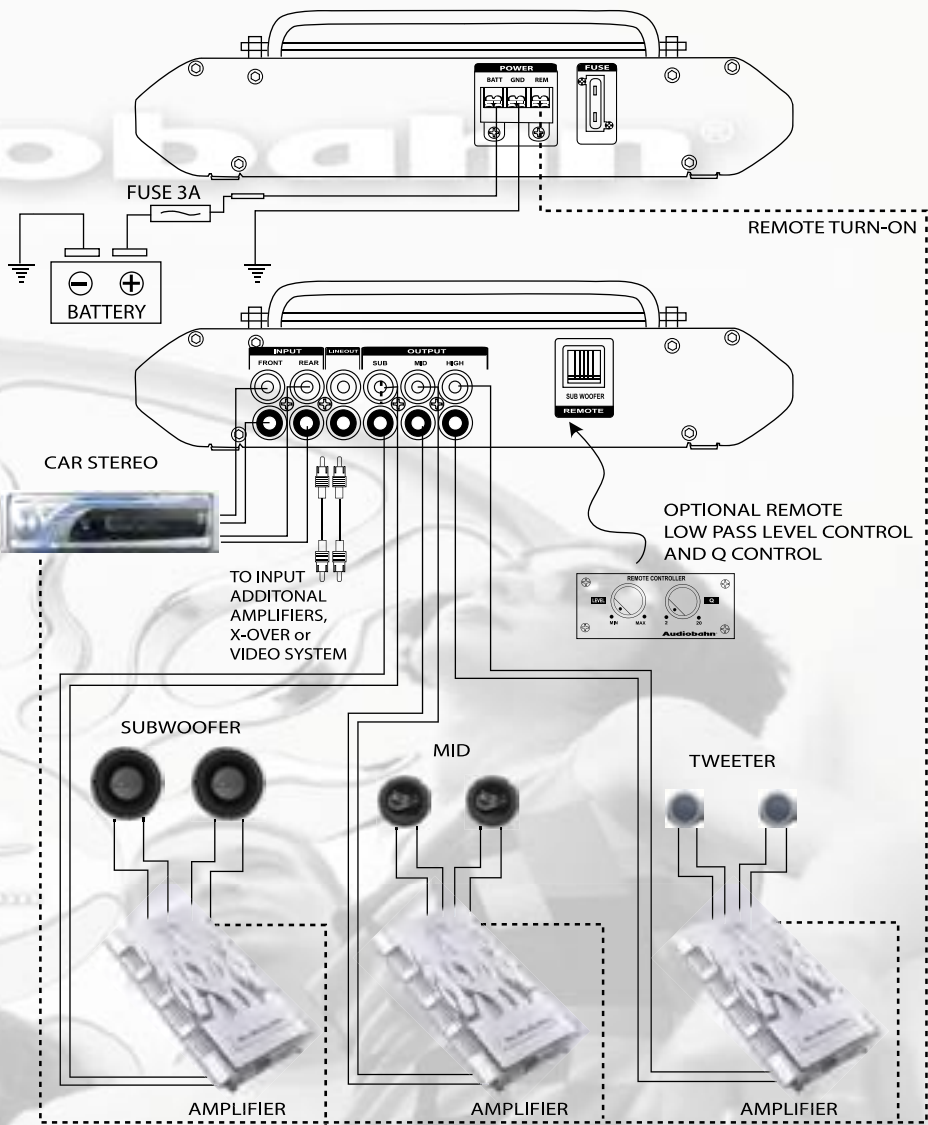


1. SUBWOOFER GAIN CONTROL

This control sets the level of the subwoofer gain control.

2. Q SELECT

Allows independent, continuous change of the boost frequency bandwidth (Q-factor) for each band from 20 (narrow bandwidth, steep slope), to 2 (wide bandwidth, gentle slopes).



SIGNAL CONNECTIONS

Review the systems diagram section and choose the best variation for your vehicle. This should give you a good idea of how many RCA cables you will need. Choosing the correct length and style of RCA patch cables is very important. Better RCA cables have either multiple layers of shielding or twisted pair wiring and gold plated terminals for better noise reduction and outstanding contacts. Be extra careful when running your RCA patch cables. Car environments are notorious for poorly insulated wires. This means that hiss, engine noise, and fan noise can be easily picked up through RCA cables if ran incorrectly. As a precaution, avoid placing your RCA cables near large wire looms and electronic fans whenever possible.

Starting at the source, connect the patch cables to the RCA output. Run the cables to the location of the AEX250X / AEX350X. Connect your patch cables to the inputs. Be sure to check for correct balance on both the radio and crossover.

Now it's time to run the output connections. Be careful to link the outputs via RCA patch cables to the correct amplifiers. Avoid entanglement between the RCA cables and the power wires. Once again, check for correct balance on both the radio and crossover. You may now reconnect your battery and install a 3 amp fuse into the fuse holder.

CROSSOVER

Determining the best crossover points for your speakers is critical. The size of the speaker, it's power handling characteristics, and frequency range need to be taken into consideration as with the location of the speaker in order to choose the correct crossover point.

ADJUSTING AND TUNING

LEVEL ADJUSTMENTS

Before you switch on the radio, you have to complete some very important adjustments in order to fine tune your system. These are the level controls. Follow the steps below starting with the preliminary adjustments.

PRELIMINARY ADJUSTMENTS

1. Adjust the input level of the AEX250X / AEX350X to 2/3 maximum.
2. Preset the subwoofer, mid and high pass output level of the AEX250X / AEX350X to slightly above minimum gain.
3. Change the equalizer switch to the off position. Set the equalizer bands to flat zero.
4. Set the input levels of the amplifiers to 1/4 maximum.
5. Activate the radio power. Set the tone controls, balance, and fader controls to the center or flat position.
6. Adjust the volume of your radio to 3/4 of maximum volume. Listen carefully to make sure the music is not clipping.
7. Start the output level adjustments by adjusting the weakest part of your system first. This may be the subwoofer, mid or high-pass, depending on the system. Turn the level control up until audible distortion is heard then turn it down until it is not audible. Make a note that most amplifiers will not accept more than 8 volts of input, so the output levels should seldom be over 3/4 maximum output. Adjusting the level above 3/4 can lead to the amplifier clipping and damaging your speakers and or amps.
8. Take a few minutes now to listen to the system to determine if the settings are satisfactory. Adjust the volume knobs to several different levels and fine tune your settings. You should do this using music tracks you know well.
9. Change the EQ defeat switch back to the EQ setting.

EQUALIZATION:

- **How does an equalizer work?**

Simply put, an equalizer corrects deviations in frequency over a given bandwidth. The knobs on the AEX250X / AEX350X are numbered with the center of the frequency "Q" they adjust. By turning these knobs clockwise or counterclockwise you can boost or cut a particular frequency to smooth the response of your system and acquire a desired sound.

- **Adjusting your equalizer.**

Adjusting your AEX250X / AEX350X is not an easy task. Audiobahn recommends the use of an RTA (Real Time Analyzer). If you are not using an RTA, it will be hard to distinguish the dips / peaks and how much to adjust each setting. Although we highly recommend using an RTA, you may adjust the AEX250X / AEX350X to your own taste by ear. Using either method to tune your system, please make sure to follow some basic steps.

1. Always start with the frequencies that need to be cut or reduced. Boosting frequencies up 3, 6, or 12dB is often accompanied by boosted system noise of equal amount. Cutting frequencies will cut noise.
2. Remember to adjust no more than two frequency bands at one time. This makes it much easier to distinguish whether the changes make an improvement or not. Since the AEX250X / AEX350X is typically mounted in the trunk, it is important to listen to the changes in the response after each setting.
3. Always use extreme caution when boosting frequencies. For every 3dB of boost, twice the power is demanded from the amplifier at that particular frequency. For example, if your amplifier is 25 watts at 0dB at a particular frequency, then at 3dB of boost it will need to supply 50 watts, and at 6dB of boost it requires 4 times the power, or 100 watts. If too much boost is applied, chances are your amplifier will clip at these frequencies.
4. Avoid equalizing more than +/- 6dB. If you have this large of a deviation, chances are you have a phase or other problem persisting. This could be in part due to the location of the speaker, or as simple as a polarity problem at one or more speakers.

REMOTE BASS LEVEL CONTROL

Is the bass in your vehicle not sufficient for the variety of music you listen to? Would you like to have more control, say from the front seat of your vehicle? Well then, we have the answer for you. It is the remote bass level control knob. The remote comes in a small metal casing and includes a 17ft. cable so you can easily mount the unit under the dash or in the glove box and have complete control over your bass level.

Connecting the remote is easy. It is designed to be mounted under the dash, in the center console, or in the glove box. Use the remote as a template and drill two 1/8" holes for mounting. Use the screws supplied in the kit to mount the remote. After mounting the remote, run the 17ft. section of cable to the AEX250X / AEX350X. Plug this into the port labeled "Remote-subwoofer." Turn the low pass level control on the AEX250X / AEX350X up a little. Now your finished.

TROUBLESHOOTING GUIDE

1. SIGNAL PROCESSOR DOES NOT TURN ON:

- Check fuse (3A) and all fuses in system.
- Check all power (positive, remote) wire connections.
- Check that the ground wire is properly connected.

2. POWER LED INDICATOR DOES NOT COME ON:

- Same as above #1 solutions.

3. SOUND DISTORTION AT LOW VOLUME LEVEL:

- Output level is not set correctly.

4. LEVEL OF SOUND IS LOW:

- Check the input gain control. Match it to the source unit output.
- Check the RCA cables for loose or incorrectly connected cables.

5. A WHINING SOUND CAN BE HEARD THROUGH THE SPEAKERS AT LOW VOLUME LEVEL WITH THE ENGINE RUNNING:

- Check the power wire for a good connection directly to the battery. The ground wire must make a good connection with the chassis of the vehicle.

WARNING

Investigate the layout of your automobile thoroughly before drilling or cutting any holes. Take care when you work near the gas tanks, gas lines, hydraulic lines, and electrical wiring. Attach the system securely to the automobile to prevent damage, particularly in the event of an accident. Do not mount the system so that the wire connections are unprotected or are subject to pinching or damage from nearby objects.

The +12V DC power wire must be fused at the battery positive terminal connection. Before making or breaking power connections at the system power terminals, disconnect the +12V wire at the battery end. Confirm your radio/head unit and/or other equipment is turned off while connecting the input jacks and speaker terminals. If you need to replace the power fuse, replace it only with a fuse identical to that supplied with the system. Using a fuse of different type or rating may result in damage to this system which is not covered by the warranty.

Disclaimer

Specifications are subject to change without notice.
For the most updated Specifications call Audiobahn,
or your local Authorized Audiobahn Dealer,
or check the Audiobahn website.
www.audiobahninc.com

Audiobahn Consumer Product Warranty Policy

Audiobahn products are manufactured with the highest quality components and some of the most advanced technology available. Because of this, we recommend that you have your new products installed by an **Authorized Audiobahn Dealer**. (A list of **Authorized Audiobahn Dealers** can be found on our web page).

Warranty Period: One year from the original date of purchase.

Warranty Coverage: This warranty covers manufacturer defects only. The warranty is applicable to the original purchaser, and is non-transferable. You must have a receipt from an **Authorized Audiobahn Dealer** that shows the location of purchase, price paid, and date of purchase.

(Products purchased by consumers from an **Authorized Audiobahn Dealer** outside the United States, are covered only by that countries Distributor and not by **Audiobahn**).

Notes:

Complete subwoofer enclosures (**Audiobahn** will replace defective subwoofers, plexiglass, or neon only. Do not send the entire enclosure, unless the enclosure is defective itself. You must receive prior authorization and an RA# before sending in any complete enclosure).

Audiobahn will only replace L.E.D.(s) found to be defective at the time of purchase.

Audiobahn warranties do not cover the following:

- Any product not purchased from an **Authorized Audiobahn Dealer** (including Internet dealers)
- Damage caused by abuse, misuse, accident, water / flood, or theft (including any cosmetic damage to the body of the product)
- Damage caused by improper installation
- Any cost or expense related to removal or reinstallation
- Any unauthorized services
- Any product that has the serial number removed, altered, or defaced
- Subsequent damage to any other components
- Pinched, cut, or stripped wires
- Any product that is new, and/or found to be in working condition
- L.E.D. indicators on electronics

How to receive warranty service: Contact your local **Authorized Audiobahn Dealer**, or call **Audiobahn** at **(800) 488-8595** between the hours of 9:00 AM and 5:00 PM PST.

If you are having problems with your system, we recommend you check the product carefully and thoroughly to confirm that the product truly has a manufacturer defect; as opposed to abuse, or other components in the system causing the failure. This might include having an **Authorized Audiobahn Dealer** look at the product to confirm the source of the problem. Any product found to have a manufacturer defect will be replaced with a new piece of the same or similar model, or repaired at the discretion of **Audiobahn**. Any product found to have no manufacturer defect will be returned to the sender at their cost.

You must acquire a Return Authorization Number (RA#) prior to returning ANY product to Audiobahn. That Return Authorization Number (RA#) must be prominently and clearly marked on the outside of the shipping carton, or product delivery will be refused (no exceptions will be made).

Please note: All shipping and handling (to and from) charges will be the sole responsibility of the consumer.

Please record and keep your Return Authorization Number (RA#) in the event that further communication is required.

Return Authorization Number (RA#): _____

Date product was sent: _____

Contact Information

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